

## Interactive Computer Marked Assignments (iCMAs) in S382 and S383

S382 *Astrophysics* has five iCMAs and S383 *The Relativistic Universe* has six iCMAs.

We can hardly overemphasise the importance of the iCMAs. These assignments (along with the TMAs) cover the most important topics and skills in the module and they give you a golden opportunity to make sure that you have the knowledge and skills needed to do well in the final exam, on Parts 1 and 3 of the module, and the extended assignment (S383) or project (S382), on Part 2 of the module.

Although these iCMAs (and TMAs) are *formative* (*i.e. do not count towards your final grade*), you are required to satisfactorily complete 8 of the 10 assignments on S382, and 9 of the 12 assignments on S383. To satisfactorily complete an assignment you must achieve a score of 30% or more. Based on student performance in previous presentations of level 3 physics and astronomy modules, it is clear that there is a strong correlation between those students who do well in the module and those who invest a lot of effort in the iCMAs.

### The mechanism of completing iCMAs

First, you should note that the iCMA questions are deliberately non-trivial. This is essential so that they can cover the key skills and knowledge needed for the exam. You should therefore be prepared to spend a reasonable amount of time on each question, often carrying out calculations with pencil and paper. You may find it convenient to print out each question immediately before working on it. If you are stuck at the outset, you may also wish to look up the references provided in the question.

Each question has a number of variants. When you click on a question, the precise variant you get will be selected at random.

One of the advantages of iCMAs is that they give instant feedback and hints, so if you get the answer wrong to begin with, you will be guided towards getting it right. Each question variant allows three attempts. If your first or second attempt is incorrect, a relevant hint will be given (you may need to scroll down the screen to read all of it). Study the hint carefully and then click the **Try Again** button to have another go. If your answer is wrong on the third attempt, a complete solution will be given.

Once you have completed a question (getting it right on the first, second or third attempt, or getting it wrong on the third attempt), it is up to you how you proceed. You can move on to the next question by clicking the **Next** button, or you can try the same question again by clicking on the question heading in the left-hand panel. This will give you a new variant of the same

question. *However, if you do this, please complete the answer to the new variant or you will get a zero score for the question; your overall score for the iCMA is determined by your most recent attempt on each question.*

If you get a question wrong on the third attempt, please read the solution carefully. We strongly recommend you then try the same question again. This is because the iCMA questions are tools to help you understand and learn – the test aspect is less important with formative assessment. If you have had difficulty with a given question, trying the same question again immediately afterwards gives you a great opportunity to sort that difficulty out. Please note that you should be given a fresh variant of the question (this is essential because you will have already seen the full solution for the first variant, so there would be no point in giving you the same variant again). Be on your guard about this because it is easy to miss a subtle change in the wording on screen, and to find yourself giving the answer to the old variant instead of the new one. The main idea is that you should continue answering different variants of the same question until you are happy with your level of understanding. It does not matter in the least how many hints you receive, or how many variants you tackle, provided you improve your understanding and confidence. If, after a number of attempts, you still have difficulties, please contact your tutor who may be able to organize an individual or small-group Illuminate session to give help on a specific topic.

Even if you get a question right, you can click on the same question number to try a different variant of the question. If you got the first variant right with the benefit of hints, you might want to see if you can get another variant right with no hints, as this would boost your score. But don't forget, if you do this, please complete the answer to the new variant or you will get a zero score for the question. If you got the first variant right on your first attempt, you will already have full marks for the question. *In this case, trying a new variant will not boost your score, and may actually decrease it if your subsequent attempts are less good.* When you are ready to proceed to the next question, click the **Next** button.

You do not need to complete all the questions in an iCMA in one session; you can break off at any point and return to carry on later. When you return to the iCMA, it is useful to note that the questions you have already completed appear with their question numbers surrounded by grey boxes. *If you click on any of these greyed-out boxes again, you will be given a new variant of the question, so only do this if you want to try the question again; not answering the question at this stage would result in a zero score.*

When you have answered all the questions in the iCMA, press the **Finish** button at the bottom of the **End test** screen. You will then get a score based on the number of correct answers and the number of hints given during your most recent attempt on each question. You will also see a summary screen showing you how well you did on each topic, with relevant references. *It is very important that you press the **Finish** button or your score will not be recorded in the Gradebook and will not count towards the module's continuous assessment threshold.* (You should only do this when you are ready to do so, having tried all the questions.)

Once you have completed an iCMA, you can at any stage attempt it again by clicking the **Restart entire test** button at the end of the summary screen. You can use this to boost your score, or for revision purposes. Because of their built-in hints and the possibility of multiple attempts, you should ultimately aim for a high score for each iCMA – preferably 70–75% or above. If you do not achieve a mark close to this to begin with, you should have another go at the assignment, trying for a higher mark. This iterative approach should guarantee that you have understood the key concepts and techniques, and will mean that you are in a very good

position to take the exam. In fact, some of the questions in the iCMAs will be similar in type to those in the exam, so there is even more motivation for getting them right!

## When to do the iCMA questions

The iCMAs have a formal cut-off date close to the end of the module. This gives you some freedom if you fall behind. Nevertheless, each of these assignments has a recommended completion date, listed in the Study Planner, about a week or so after the end of the relevant study period. *We very strongly recommend that you make your first attempt at each of these assignments by the recommended completion date.* This is to help you to pace your study through the module and will allow your tutor to give support when it is most needed.

Perhaps the best way of tackling the iCMAs is to attempt the questions associated with each chapter as you study it, or very soon afterwards. This will give you feedback at the most appropriate time for improving your understanding, and will help with the study of later chapters. Alternatively, you can wait until a few days before the recommended completion date and then tackle the iCMA as a whole.

*You must complete the iCMAs (i.e. press the **Finish** button at the bottom of the **End test** screen) by midnight (UK local time) on the formal cut-off date if they are to count towards the formative assessment threshold.* After this, the iCMAs will close and you will not be able to attempt them again. We strongly recommend that you don't wait until the formal cut-off date before completing an iCMA for the first time. Unforeseen problems (e.g. with your computer or the OU server) on the day may prevent you from finishing an assignment before it closes.

## Scoring and thresholds on iCMAs

The scores for individual questions are calculated as follows:

- 4 marks if you get the question correct on your first attempt;
- 3 marks if you get the question correct on your second attempt;
- 2 marks if you get the question correct on your third attempt.

On some questions, 1 mark is available for getting the question partially correct on your third attempt.

When you click the **Finish** button, the scores for your *most recent* attempts on all the questions are added together and converted to a percentage score for the whole iCMA. This will be automatically transferred to Gradebook, normally overnight. It may then take a little longer (up to another day) to appear in the Assessment block.

Once you have completed the iCMA (by clicking the **Finish** button), you can attempt the whole assignment again with no chance of spoiling your score: Gradebook always records the score of your *best* attempt, and this is the score that will be used to determine the formative assessment threshold and that will be made available to the Examination and Assessment Board.

The iCMAs count towards the formative assessment threshold, along with the TMAs. In order to pass the module you must demonstrate satisfactory engagement with at least 8 of these 10

assignments on S382, or at least 9 of the 12 assignments on S383. (See the *Introduction and Guide* for further information on the assessment strategy).

The minimum requirements for 'satisfactory engagement' have deliberately been set at a low level. For each of the iCMAs, a score of 30% or more is required. Also, the formal cut-off dates for the iCMAs (but not the TMAs) have been set close to the end of the module. This is so that you can use them many times, including during the revision period leading up to the exam.

However, we emphasize once more that these minimum requirements do not represent our best advice for successful completion of the module. *We strongly recommend that:*

- You should complete your first attempt on each iCMA on or before the recommended completion date listed on the Study Planner. This will give you timely feedback and help with your study of later chapters. It will also allow your tutor to give support when it is most needed.
- You should eventually aim to score at least 70–75% on each iCMA, to ensure that you have a good understanding of the topics contained in it. If you score significantly less than 70% to begin with, you should attempt the iCMA again, trying to increase your score.